This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1 -13 (canceled)

Claim 14 (currently amended): A method for creating accurate time-stamped frames sent between computers via a network, comprising the steps of:

receiving ~~using a receiver to generate~~ a universal coordinated time reference signal;

synchronizing clocks electronically connected to universal coordinated time reference signal receivers and associated with sending and receiving computers, but operating independently of operating system clocks of the sending or receiving computers, with the universal coordinated time reference signal by initializing the clocks with the received universal coordinated time reference signal;

using the clocks to create sub-microsecond time values corresponding to a fractionalized universal coordinated time reference signal;

~~and~~ over time, ~~tracking and averaging the periodically received universal coordinated time reference signal and~~ adjusting the clock into synchronization with ~~to correspond to~~ the universal coordinated time reference signal;

creating a test frame including a tag having reserved fields for transmit and receive time stamps representing the universal coordinated time reference signal and the sub-microsecond time values;

inserting a transmit time stamp into the reserved transmit time stamp field corresponding to the time on the synchronized clock of the sending computer at the instant the test frame is sent onto the network without intervention of the sending computer's central processing unit; and

receiving the test frame having the transmit time stamp and inserting a receive time stamp into the reserved receive time stamp field corresponding to the time on the synchronized clock of the receiving computer when the test frame was received by the receiving computer.

Claim 15 (currently amended): The method of claim 14, wherein the universal coordinated time signal is received via a global positioning system receiver ~~in communication with either the sending or receiving computer~~.

Claim 16 (currently amended): The method of claim 15, wherein the clock and global positioning system receiver ~~receivers~~ are electronically connected on a device which is attachable to an existing multi-master bus of either the sending or receiving computer.

Claim 17 (original): The method of claim 16, wherein the device comprises a card interfacing with a multi-master bus of the receiving or sending computer.

Claim 18 (currently amended): The method of claim 14, wherein the ~~synchronizing~~ adjusting step includes the steps of altering the voltage applied to a voltage controlled crystal oscillator associated with the clock to maintain synchronization with the universal coordinated time signal.

Claim 19 (currently amended): The method of claim 14, wherein ~~the~~ a receiving device ~~computer~~, without intervention from the receiving computer, automatically attaches a receive time stamp corresponding to the synchronized time that the frame was received for each frame received.

Claim 20 (currently amended): The method of claim 14, wherein ~~the~~ a receiving device ~~computer~~, without intervention from the receiving computer, detects the tag of each test frame and attaches a receive time stamp corresponding to the synchronized time that the frame was received to only the test frames.

Claim 21 (currently amended): The method of claim 14, wherein the creating step includes the step of creating complimentary time information in the reserved transmit and receive time stamp fields to enable the insertion of the synchronized transmit and receive time stamps upon transmit and receipt, respectively, in order to preserve an original TCP or UDP checksum.

Claim 22 (original): The method of claim 14, wherein the synchronized clocks have a resolution of between 10 and 100 nanoseconds.

Claim 23 (original): A method for creating accurate time-stamped frames sent between computers via a network, comprising the steps of:

using a global positioning receiver in communication with sending and receiving computers to generate a universal coordinated time reference signal;

synchronizing clocks associated with the sending and receiving computers, but operating independently of operating system clocks of the sending or receiving computers, with the universal coordinated time reference signal by initializing the clocks with the received universal coordinated time reference signal and over time tracking and averaging the periodically received universal coordinated time reference signal and adjusting the clock to correspond to the universal coordinated time reference signal by altering the voltage applied to a voltage controlled crystal oscillator associated with the clock;

creating a test frame including a tag having reserved fields for transmit and receive time stamps;

creating complimentary time information in the reserved transmit and receive time stamp fields;

replacing the complimentary time information in the transmit time stamp field with a transmit time stamp corresponding to the time on the synchronized clock of the sending computer at the instant the test frame is sent onto the network without intervention of the sending computer's central processing unit; and

automatically attaching a receive time stamp corresponding to the time on the synchronized clock of the receiving computer when the frame was received by the receiving computer to every frame received by the receiving computer.

Claim 24 (original): The method of claim 23, wherein the clock and global positioning system receivers are electronically connected on a device which is

attachable to an existing multi-master bus of either the sending or receiving computer.

Claim 25 (original): The method of claim 24, wherein the device comprises a card interfacing with a multi-master bus of the receiving or sending computer.

Claim 26 (original): The method of claim 23, wherein the synchronized clocks have a resolution of between 10 and 100 nanoseconds.

Claims 27-30 (canceled)

Claim 31 (new): The method of claim 14, wherein the inserting step includes inserting the transit time stamp into the reserved transit time stamp field at the instant a last byte of the test frame is sent onto the network; and wherein the receiving step includes the step of inserting a receive time stamp into the reserved receive time stamp field when a first byte of the test frame is received by the receiving computer.

Claim 32 (new): The method of claim 16, wherein the device includes only hardware or firmware and not software.

Claim 33 (new): The method of claim 18, wherein the adjusting step comprises the steps of comparing the received universal coordinated time reference signal with the created sub-microsecond time values and altering the voltage applied to the voltage controlled crystal oscillator associated with the clock to speed up or slow down and synchronize the sub-microsecond time values created by a counter in the clock with the universal coordinated time reference signal.

Claim 34 (new): A method for creating accurate time-stamped frames to be sent between computers via a network, comprising the steps of:

receiving a universal coordinated time reference signal;

creating sub-microsecond time values corresponding to a fractionalized universal coordinated time reference signal using a clock operating independently of a computer clock and in direct electronic communication with a universal coordinated time reference signal receiver, wherein the universal coordinated time reference signal and the sub-microsecond time values together represent an absolute time;

over time, comparing the received universal coordinated time reference signal and the created sub-microsecond time values and adjusting the clock into synchronization with the universal coordinated time reference signal;

creating a test frame including a tag having reserved fields for transmit and receive time stamps representing the absolute time; and

inserting a transmit time stamp into the reserved transmit time stamp field corresponding to the absolute time the test frame is sent onto the network, without intervention of the computer's central processing unit.

Claim 35 (new): The method of claim 34, wherein the universal coordinated time signal is received via a global positioning system receiver.

Claim 36 (new): The method of claim 33, wherein the clock and global positioning system receiver are electronically connected on a device which is attachable to an existing multi-master bus of either the sending or receiving computer.

Claim 37 (new): The method of claim 36, wherein the device comprises a card interfacing with a multi-master bus of the receiving or sending computer.

Claim 38 (new): The method of claim 37, wherein the device includes only hardware or firmware and not software.

Claim 39 (new): The method of claim 38, wherein the device does not consume any of the computer's central processing resources.

Claim 40 (new): The method of claim 34, wherein the adjusting step includes the steps of altering the voltage applied to a voltage controlled crystal oscillator associated with the clock to speed up or slow down and synchronize the sub-microsecond time values created by a counter in the clock with the universal coordinated time reference signal.

Claim 41 (new): The method of claim 34, wherein the clock has a resolution of between 10 and 100 nanoseconds.

Claim 42 (new): The method of claim 34, including the step of receiving the test frame having the transmit time stamp and inserting a receive time stamp into the reserved receive time stamp field corresponding to the time on the synchronized clock of a receiving computer when the test frame was received by the receiving computer.

Claim 43 (new): The method of claim 41, wherein the receiving computer automatically attaches a receive time stamp corresponding to the synchronized time that a first byte of the frame was received for each frame received.

Claim 44 (new): The method of claim 41, wherein the receiving computer detects the tag of each test frame and attaches a receive time stamp corresponding to the synchronized time that the frame was received to only the test frames.

Claim 45 (new): The method of claim 41, wherein the creating step includes the step of creating complimentary time information in the reserved transmit and receive time stamp fields to enable the insertion of the synchronized transmit and receive time stamps upon transmit and receipt, respectively, in order to preserve an original TCP or UDP checksum.